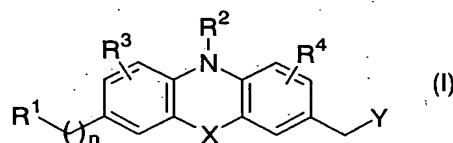
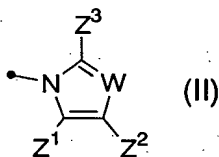


Abstract

The present invention provides an agent for prevention and/or treatment of asthma comprising a substance capable of suppressing the function involved in signal transduction of GPR4 as an active ingredient. It also provides an agent for prevention and/or treatment of asthma which comprises a nitrogen-containing tricyclic compound represented by the formula (I) or a quaternary ammonium salt thereof, or a pharmaceutically acceptable salt thereof;



[wherein R¹ represents a substituted or unsubstituted lower alkyl, or the like; R² represents hydrogen, a substituted or unsubstituted lower alkyl, or the like; R³ and R⁴ are the same or different and each represents hydrogen, lower alkyl, or the like; n represents 0 or 1; X represents -(CH₂)₂-, or the like; and Y represents the formula (II)]



(wherein W represents CH or a nitrogen atom; Z¹ and Z² are the same or different and each represents hydrogen, a substituted or unsubstituted lower alkyl, or the like; and Z³ represents hydrogen, a substituted or unsubstituted lower alkyl, or the like)] as an active ingredient.